

AMENDMENTS

Please amend the application as follows:

In the Claims

1. (Currently Amended) A method for manufacturing a magnetic inductor core, the method comprising:

depositing layers of ferromagnetic material and at least a first layer of sacrificial conductive material such that a first stack of ferromagnetic layers ~~spaced apart a first predetermined distance~~ is formed, with the layers of ferromagnetic material of the first stack being spaced apart from each other, and a second stack of ferromagnetic layers ~~spaced apart a second predetermined distance~~ is formed, with the layers of ferromagnetic material of the second stack being spaced apart from each other, spacing between the layers of ferromagnetic material of the first stack the first predetermined distance being established by the sacrificial conductive material located between and separating the layers of ferromagnetic material of the first stack, spacing between the layers of ferromagnetic material of the second stack the second predetermined distance being established by the sacrificial conductive material located between and separating the layers of ferromagnetic material of the second stack, the first stack being spaced from the second stack;

depositing a support structure such that the support structure is attached to each of the layers of ferromagnetic material of the first stack and to each of the layers of ferromagnetic material of the second stack; and

removing the sacrificial conductive material such that the sacrificial material no longer maintains separation between the layers of ferromagnetic material of the first stack, the first stack

and the second stack of ferromagnetic layers being mechanically supported by the support structure such that the support structure maintains separation between the layers of ferromagnetic material of the first stack and between the layers of ferromagnetic material of the second stack.

2. (Previously Presented) The method of claim 1, wherein the depositing steps are performed by electrodeposition.

3. (Previously Presented) The method of claim 2, wherein the steps of electrodepositing the layers of the ferromagnetic material and the at least first layer of the sacrificial conductive material are performed in an alternating and repetitive manner.

4. (Previously Presented) The method of claim 1, further comprising:
creating a core mold atop a substrate, wherein the core mold is configured to shape at least the deposited ferromagnetic and sacrificial conductive materials; and
removing the core mold once the support structure is electrodeposited.

5. (Original) The method of claim 1, wherein the support structure is U-shaped.

6. (Original) The method of claim 1, wherein the ferromagnetic material is permalloy.

7. (Original) The method of claim 1, wherein the sacrificial conductive material is copper.

8. (Previously Presented) The method of claim 1, wherein each of the layers of ferromagnetic material has a thickness on an order of or less than a skin depth of the material at a given operating frequency.

9. (Original) The method of claim 1, wherein the step of removing is performed by selective etching of the sacrificial conductive material.

10. – 24. (Canceled)

25. (Previously Presented) The method of claim 1, wherein the support structure is formed of a ferromagnetic material.